

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/17424

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : C12N 15/10,15/29,15/82,15/84; A01H 1/00 US CL : 435/91.2; 536/23.6; 800/260,278,294 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 435/91.2; 536/23.6; 800/260,278,294 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X — Y	US 5,482,852 A (YODER et al) 09 January 1996 (09.01.1996), Figures 1-3; column 2, line 57 through column 3, line 28; column 14, line 50 through column 21, line 20).	3 — 1-2
X	US 6,103,893 A (COOKE et al) 15 August 2000 (15.08.2000), columns 11-16.	41
X — Y	WO 96/34968 A2 (NATIONAL STARCH AND CHEMICAL INVESTMENT HOLDING CORPORATION) 07 November 1996 (07.11.1996), pages 21-22 and 53-55.	43 — 1-2 and 42
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents:		
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	
"P" document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search	Date of mailing of the international search report	
31 March 2005 (31.03.2005)	15 APR 2005	
Name and mailing address of the ISA/US	Authorized officer	
Mail Stop PCT, Attn: ISA/US	David P. Fox	
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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-3 and 41-43

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

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BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-3 and 40-43, drawn to an isolated nucleic acid from a plant which is capable of transferring a polynucleotide to another plant, a method for making it, and a method for using it to transform plants and identify transformants via DNA hybridization methods.

Group II, claim(s) 4-8 and 15-17, drawn to a tuber with a reduced acrylamide level.

Group III, claim(s) 9-12, drawn to a tuber with a reduced amylose level.

Group IV, claim(s) 13-14, drawn to a tuber with a reduced level of cold-induced glucose.

Group V, claim(s) 18-20, drawn to a tuber with a reduced phosphate level.

Group VI, claim(s) 21-27, drawn to a tuber with a reduced polyphenol oxidase level.

Group VII, claim(s) 28-39, drawn to a method of identifying plant cells transformed with a plant polynucleotide comprising selection on a medium toxic to plants containing a vector comprising said polynucleotide.

The inventions listed as Groups I-VII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The inventions are linked by the technical feature of plant transformation with a plant polynucleotide that facilitates the incorporation of other nucleic acids into a plant genome. However, this feature is not special because it does not constitute an advance over the prior art. YODER et al (US 5,482,852 A issued 09 January 1996) teach plant transformation with a vector comprising T-DNA and plant-derived transposons for the introduction of a gene of interest into the recipient plant genome (see, e.g., Figures 1-3; column 2, line 57 through column 3, line 28; column 14, line 50 through column 21, line 20).

Furthermore, the invention of Group I, a first product, process of making and process of using, involves PCR methods not required by any other group, and isolated plant sequences not required by Groups II-VI. The inventions of each of Groups II-VI, drawn to second through sixth products, respectively, involve genetically unmodified tubers exhibiting different levels of physiologically and biochemically different end-products. The invention of Group VII, a second process of use, involves selection agents and selection media not required by any other group.